



BRITISH MUSEUM (NATURAL HISTORY),

CROMWELL ROAD,

LONDON: S.W

Oct. 27<sup>th</sup>/00.

Dear Sir

Mr Davies has asked me to  
reply to your note of the 24<sup>th</sup>.

Dana's elements are

$$a:b:c = 1:24135:0.9^c$$
$$\beta = 66^\circ 14'$$

Hauemann's elements are

$$a:b:c = 0.6891:1:0.4156$$
$$\beta = 81^\circ 5'$$

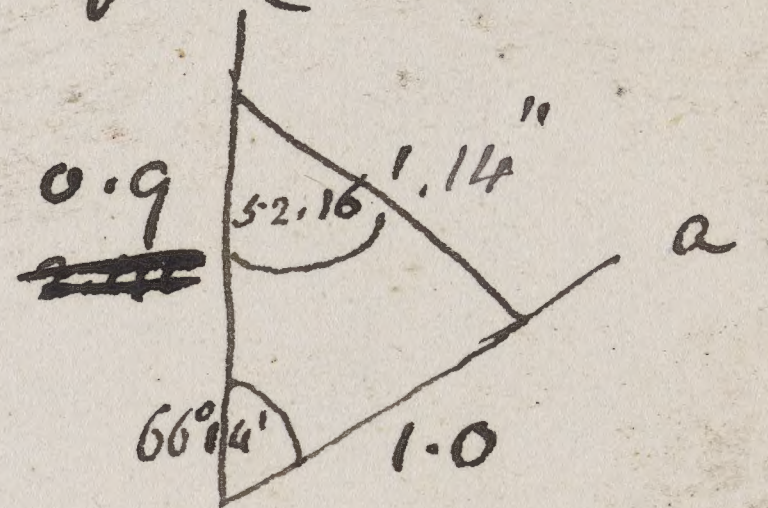
which may be written

$$a:b:c = 1:1.451:0.6031$$
$$\beta = 81^\circ 5'$$



The inclinations calculated from these  
are Dana

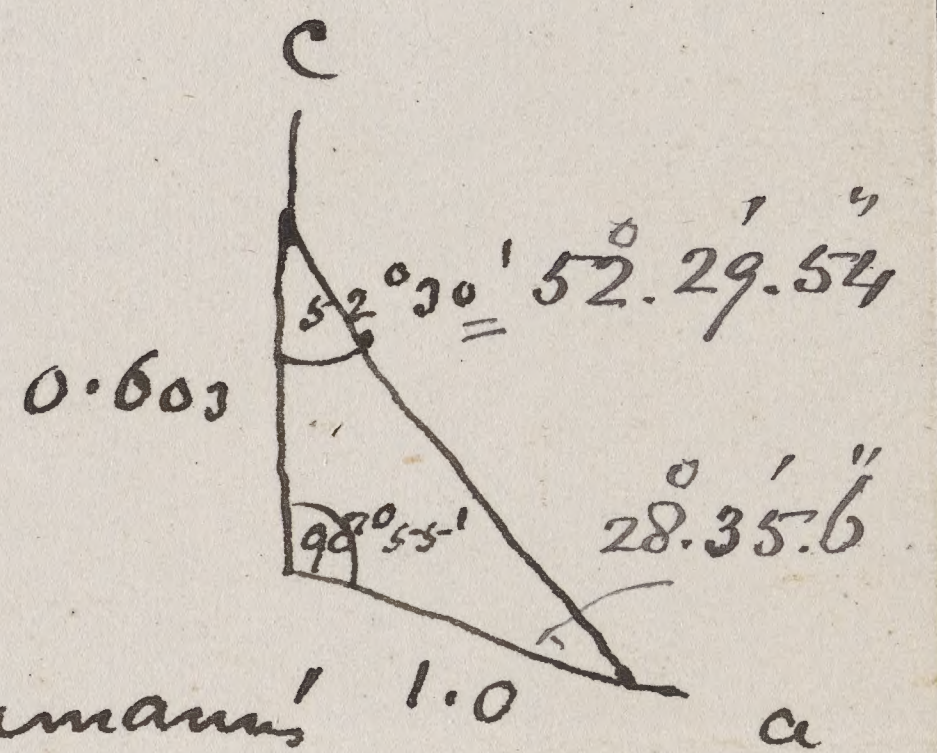
$52^{\circ}16'$



This is the angle given in Dana's  
Mineralogy.

Naumann

$52^{\circ}30'$



The angle given in Naumann's  
Mineralogy is  $52^{\circ}29'$

The error arose from your taking the  
acute instead of the obtuse angle of  
the axes in Naumann's case.

believe me yours truly

H. A. Miers





BRITISH MUSEUM (NATURAL HISTORY),

CROMWELL ROAD,

LONDON: S.W.

Nov. 1<sup>st</sup>/88.

Dear Sir

I have no doubt that your calculations are correct, and they agree very closely with mine which ~~were~~ disregarded fractions of a minute in the successive steps.

As you say, the angle of Selenite is about  $52^{\circ}20'$  according to Haumann, and  $52^{\circ}16'$  according to Dana. The former is deduced from Des Cloizeaux's measurements, the latter is, I think, from Miller.



This means that the angles of Selenite have been differently determined by different observers, which is not surprising when one considers the unevenness and flexibility of the crystals.

I could not undertake to determine the dimensions ~~of~~ with accuracy from any of our specimens except by the measurement of a very large number of the best crystals, and even then I doubt whether the result would be reliable within 20 minutes or so, the possible error would probably be greater. It is my belief that even with the best crystallised minerals it is difficult to determine the angles within one or two minutes. For example after measuring about 150 crystals of Pyrrargyrite I find that the rhombohedron angle as determined from the best crystals varies to the

extent of four or five minutes from the mean value.

Believe me  
yours truly H. A. Muir.



— A.L.S. (H. M. MIERS), same address, Nov. 1st/88, 2 pages 8vo., 15s **LONDON BOTHERAN**  
All on crystal measurement. . . . 'This means that the Angles of Selenite have been differently determined by  
different observers, which is not surprising when one considers the unevenness and flexibility of the crystals.' . . .



Part of the letter is written by an amanuensis, Lyell being then in his 76th year.

5793 **MACKENZIE** (**Sir George Stuart**, F.R.S., *mineralogist*, 1780-1848) A.L.S. (G. S. MACKENZIE)  
5 Melville Street 20 Sept [1847] to David Milne-Homes. 2 pages 8vo. 15s.